

WHAT IS CLAIMED IS:

1. Process for the preparation of an impact-resistant polymer composition comprising a rubber composition dispersed in a matrix polymer, said process comprising melt mixing matrix polymer A with said rubber composition dispersed in a matrix polymer B, wherein the dispersion of said rubber composition in matrix polymer B is the product obtained by melt mixing of matrix polymer B with a rubber composition that contains at least one functionalized rubber, and at least one non-functionalized rubber and wherein said impact-resistant rubber composition comprises 0.5-75 parts by weight of rubber composition per 100 parts by weight of matrix polymer.
2. Process according to claim 1, wherein matrix polymer B is identical to matrix polymer A.
3. Process according to claim 1, wherein the weight ratio of matrix B to rubber composition lies between 80:20 and 30:70.
4. Process according to claim 3, wherein the functionalized rubber is present as a shell around a core of the non-functionalized rubber.
5. Process according to claim 1, wherein the functionalized rubber is derived from a rubber that is different from the non-functionalized rubber.
6. Process according to claim 3, wherein the non-functionalized rubber is an ethylene (C4-C12) α -olefin copolymer rubber.
7. Process according to claim 6, wherein the ethylene- α -olefin copolymer is obtained by polymerization in the presence of a metallocene catalyst.
8. Process according to claim 1, wherein the matrix polymers A and B are selected from the group consisting of polyamides, polyesters, polyacetals and polycarbonates.
9. Process according to claim 8, wherein the matrix polymers are each polyamides.

10. Process according to claim 1, wherein the functionalized rubber comprises a styrene-butadiene tri-block polymer.

11. Process according to claim 1, wherein the functionalized rubbers are obtained by reaction with or by graft polymerization of a rubber with an unsaturated dicarboxylic acid anhydride, an unsaturated dicarboxylic acid or an unsaturated dicarboxylic acid ester.

12. Process according to claim 1, wherein the rubber is not crosslinked.

13. A composition comprising a dispersed rubber composition in a first matrix polymer , the dispersed rubber composition containing at least one functionalized rubber and at least one non-functionalized rubber, whereby said composition may be mixed with a composition comprising a second matrix polymer to form an impact-resistant polymer composition.

14. Impact-resistant polymer composition obtainable by the process according to claim 1.

16. Granule mixture comprising a matrix polymer A and a matrix polymer B in which a rubber composition is dispersed wherein the rubber composition contains at least one functionalized rubber and at least one non-functionalized rubber.

17. Granule mixture according to claim 16, wherein the matrix polymer B is identical to matrix polymer A.

18. Granule mixture according to claim 16, wherein the rubber composition is dispersed in a matrix polymer B and the functionalized rubber is present as a shell around the core of the non-functionalized rubber.

19. Granule mixture according to claim 16, wherein the functionalized rubber and/or the non-functionalized rubber comprises ethylene- α -olefin copolymer obtained by polymerization in the presence of a metallocene catalyst.

20. Granule mixture according to claim 16, wherein the functionalized rubber and/or the non-functionalized rubber comprises a styrene-butadiene tri-block copolymer.

21. Object shaped from the melt of the granule mixture according to claim 16.
22. Object according to claim 21, wherein the functionalized rubber is present as a shell around a core of non-functionalized rubber.